

10/572827**IAP20 Rec'd PTO 21 MAR 2006**2003-08-18 2750-1573P.ST25.txt
SEQUENCE LISTING

<110> FELDMAN et al.

<120> NUCLEOTIDE SEQUENCES AND POLYPEPTIDES ENCODED THEREBY USEFUL FOR
INCREASING PLANT SIZE AND INCREASING THE NUMBER AND SIZE OF LEAVES

<130> 2750-1573F(PCT)

<140> UNASSIGNED

<141> 2003-08-18

<160> 47

<170> PatentIn version 3.0

<210> 1

<211> 1453

<212> DNA

<213> Zea mays subsp. mays

<220>

<221> misc_feature

<222> (1)..(1453)

<223> ceres Seq. ID no. 12355477

<220>

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<222> ()..()

<223> n is a, c, t, g, unknown, or other

<400> 1

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gttcttgagt tgcgatcttc tgctggttcg tgtcccccac tccgtaatca atccggcgctc 240
taggaaacca attgctgctc agttctctta ttgctcctc gccttccttc ctccagcctg 300
gttaaaatat cgaaagggga ttttttttta aaaaatctgct catcgaggaa gcaggaaga 360
caagaattgt tgcacgcgat aaaggctcgg tgaaaataca agcaaactct gggaactcgc 420
gtccctttgc taggtggttc tttcctgata caaagaacac aatgggcgat gtgtccttga 480
acggacccat taaggctgct gagccagggt ccggtggcat tgccaagggc aatcaagttc 540
tggacacgat gtccgccggg tggacagacg agagacacag gctgtatata agctctatgg 600
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aggcctcttt cgtcgatcaa ctgtacaacc acgggagccg tccgcgcaac gcaaacggca 660
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aatctggcac tgaggcaaac cggaagagcc tctcagcgtc tcatggaagg gaacgggacg 900
cttgtgaggg agaaccaccag cttctccatg aaagtagaga ggtctctgat caaaattttg 960
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ctcgtctctc cgtcagaagg atattaggct aggtcactgt tattaatttt ttcaataaca 1380
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<210> 2
<211> 576
<212> DNA
<213> Zea mays subsp. mays

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ctgtatataa gctctatgga ggccctcttc gtcgatcaac tgtacaacca cgggagccgt 180
ccgcgcaacg caaacggcac cgccctcaag gctctccgca gggagtagct cgagtatgag 240
aagaccgatg ctctgtgctg aaggggggct aagtgtgctg gcgttcctgc aaatccttgg 300
atgcagcatt tcaggccacg tagtgatggc ggtaataacg gcgcgaggcg tgggctcggg 360
gattctgtgg gcgatcttga atctggcact gaggcaaacc ggaagagcct ctacgcgtct 420
catggaaggg aacgggacgc ttgtgagggg gaaccccagc ttctccatga aagtagagag 480
gtctctgatc aaaattttgc tgacgacgag gctgaagctg aaacagaatc aatgaaagca 540
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<210> 3
<211> 192
<212> PRT
<213> Zea mays subsp. mays

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2003-08-18 2750-1573P.ST25.txt

<220>
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 <222> (1)..(192)
 <223> ceres Seq. ID no. 12355478

<220>
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 20 25 30
 Gly Trp Thr Asp Glu Arg His Arg Leu Tyr Ile Ser Ser Met Glu Ala
 35 40 45
 Ser Phe Val Asp Gln Leu Tyr Asn His Gly Ser Arg Pro Arg Asn Ala
 50 55 60
 Asn Gly Thr Ala Phe Lys Ala Leu Arg Arg Glu Tyr Val Glu Tyr Glu
 65 70 75 80
 Lys Thr Asp Ala Pro Val Arg Arg Gly Ala Lys Cys Cys Gly Val Pro
 85 90 95
 Ala Asn Pro Trp Met Gln His Phe Arg Pro Arg Ser Asp Gly Gly Asn
 100 105 110
 Asn Ala Arg Gly Asp Gly Leu Gly Asp Ser Val Gly Asp Leu Glu Ser
 115 120 125
 Gly Thr Glu Ala Asn Arg Lys Ser Leu Ser Ala Ser His Gly Arg Glu
 130 135 140
 Arg Asp Ala Cys Glu Gly Glu Pro Gln Leu Leu His Glu Ser Arg Glu
 145 150 155 160
 Val Ser Asp Gln Asn Phe Ala Asp Asp Glu Ala Glu Ala Glu Thr Glu
 165 170 175
 Ser Met Lys Ala Tyr Lys Lys Arg Arg Leu Ser Arg Thr Met Ile Asn
 180 185 190

<210> 4
 <211> 489
 <212> DNA
 <213> Zea mays subsp. mays

<400> 4
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 aaggctctcc gcagggagta cgtcgagtat gagaagaccg atgctcctgt gcgaaggggg 180
 gctaagtgtc gcggcggtcc tgcaaatacct tggatgcagc atttcaggcc acgtagtgtat 240
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2003-08-18 2750-1573P.ST25.txt

ggcggtaata acgcgcgagg cgatgggctc ggggattctg tgggcgatct tgaatctggc 300
 actgaggcaa accggaagag cctctcagcg tctcatggaa gggaaacggga cgcttgtag 360
 ggagaacccc agcttctcca tgaaagtaga gaggtctctg atcaaaattt tgctgacgac 420
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 atgatcaac 489

<210> 5
 <211> 163
 <212> PRt
 <213> Zea mays subsp. mays

<220>
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 <222> (1)..(163)
 <223> ceres Seq. ID no. 12355479

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 5
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 1 5 10 15
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 20 25 30
 Arg Asn Ala Asn Gly Thr Ala Phe Lys Ala Leu Arg Arg Glu Tyr Val
 35 40 45
 Glu Tyr Glu Lys Thr Asp Ala Pro Val Arg Arg Gly Ala Lys Cys Cys
 50 55 60
 Gly Val Pro Ala Asn Pro Trp Met Gln His Phe Arg Pro Arg Ser Asp
 65 70 75 80
 Gly Gly Asn Asn Ala Arg Gly Asp Gly Leu Gly Asp Ser Val Gly Asp
 85 90 95
 Leu Glu Ser Gly Thr Glu Ala Asn Arg Lys Ser Leu Ser Ala Ser His
 100 105 110
 Gly Arg Glu Arg Asp Ala Cys Glu Gly Glu Pro Gln Leu Leu His Glu
 115 120 125
 Ser Arg Glu Val Ser Asp Gln Asn Phe Ala Asp Asp Glu Ala Glu Ala
 130 135 140
 Glu Thr Glu Ser Met Lys Ala Tyr Lys Lys Arg Arg Leu Ser Arg Thr
 145 150 155 160
 Met Ile Asn

<210> 6

2003-08-18 2750-1573P.ST25.txt

<211> 441

<212> DNA

<213> Zea mays subsp. mays

<400> 6

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gtgcgaaggg gggctaagtg ctgcggcggt cctgcaaadc cttggatgca gcatttcagg      180
ccacgtagtg atggcggtaa taacgcgcga ggcgatgggc tcggggattc tgtgggcgat      240
cttgaatctg gcactgaggc aaaccggaag agcctctcag cgtctcatgg aaggggaacgg      300
gacgcttgat agggagaacc ccagcttctc catgaaaagta gagaggtctc tgatcaaaat      360
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<210> 7

<211> 147

<212> PRt

<213> Zea mays subsp. mays

<220>

<221> peptide

<222> (1)..(147)

<223> ceres Seq. ID no. 12355480

<220>

<221> misc_feature

<222> ()..()

<223> xaa is any aa, unknown or other

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Arg Asn Ala Asn Gly Thr Ala Phe Lys Ala Leu Arg Arg Glu Tyr Val
20          25          30
Glu Tyr Glu Lys Thr Asp Ala Pro Val Arg Arg Gly Ala Lys Cys Cys
35          40          45
Gly Val Pro Ala Asn Pro Trp Met Gln His Phe Arg Pro Arg Ser Asp
50          55          60
Gly Gly Asn Asn Ala Arg Gly Asp Gly Leu Gly Asp Ser Val Gly Asp
65          70          75          80
Leu Glu Ser Gly Thr Glu Ala Asn Arg Lys Ser Leu Ser Ala Ser His
85          90          95
Gly Arg Glu Arg Asp Ala Cys Glu Gly Glu Pro Gln Leu Leu His Glu
100         105         110
Ser Arg Glu Val Ser Asp Gln Asn Phe Ala Asp Asp Glu Ala Glu Ala
115         120         125

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2003-08-18 2750-1573P.ST25.txt
 Glu Thr Glu Ser Met Lys Ala Tyr Lys Lys Arg Arg Leu Ser Arg Thr
 130 135 140

Met Ile Asn
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<210> 8
 <211> 1494
 <212> DNA
 <213> Zea mays subsp. mays

<220>
 <221> misc_feature
 <222> (1)..(1494)
 <223> ceres Seq. ID no. 12410516

<220>
 <221> misc_feature
 <222> ()..()
 <223> n is a, c, t, g, unknown, or other

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 agggggccttg cttcatctgc tgtccgatcg tggtttggtt tctcggggct ggcgcggtca 180
 agagcgcacc tgaattccac cgaaatccgc cacggtagtt cttgcctagg tgtgtcgttg 240
 gtcgttgctt tgtgaccctt gcggattttc ttgtttcttt ttgagttgcg atctttgcag 300
 gttagtctcc cccccaatcc gtaatcatcc ggcgtctagg aaactgcagt ccagttttct 360
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 ggtggcattg ccaagggaaa ccgagttctg gacacgatgt ccgccgggtg gacggacgag 660
 agacacatgc tgtatataag ctccatggag gcttcttttg tcgatcagct atacaaccat 720
 ggaaaccatc cgcacgacgc aaatggcgct ggcttcaagg ttctccgcag ggggggtgtg 780
 gagtacatcg agtatgagaa gaccagtgcc cctgtgcgaa gtgggggctaa atgctgcgtc 840
 cctgcaaadc cttggatccg gcatttcagg ccacgtgact gcggtagtaa cgcacagagt 900
 gacgcggtcg aggcctcagt gggcgaccat gagtcgggta ctcaggcaag ccgcaagagc 960
 ccttcagtgt ctcatggaag ggaacgggga gcttgtaagg gagaaccca gattctacat 1020
 gaaagtacag aggtctctga tcaaaatttt gctgacgatg aggctgaagc tgaaacagaa 1080
 tcaatgaaag catgcaagaa aaggagacta agcagggctt tgcactccgg tgctgaatga 1140

2003-08-18 2750-1573P.ST25.txt

tcaagtaa at tcgcaggaac aattagctta gcctgttgca agaatcgata tgatttatcc 1200
 taaaagaagg tgtaagatg atgggacatg gctttcaaaa ctttcagctg ttgcctgctg 1260
 gtagccaaga cacactgaat ccgaaggaag gcgttgaagg gtagctgtta gtgattttgt 1320
 gatataaaga gtactggggc agttagcatc ggcattttta gcggatttaa gttcttggtta 1380
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 aggatatttc tatatatgt ctgtacttgg tagatatatg tattggttga tccg 1494

<210> 9
 <211> 585
 <212> DNA
 <213> Zea mays subsp. mays

<400> 9
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 tatataagct ccatggaggc ttcttttgtc gatcagctat acaaccatgg aaaccatccg 180
 cacgacgcaa atggcgctgg cttcaagggt ctccgcaggg ggggtgtgga gtacatcgag 240
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 tggatccggc atttcaggcc acgtgactgc ggtagtaacg cacagagtga cgcggctcag 360
 gcctcagtgg gcgaccatga gtcgggtact caggcaagcc gcaagagccc ttcagtgtct 420
 catggaaggg aacggggagc ttgtaaggga gaaccccaga ttctacatga aagtacagag 480
 gtctctgatc aaaattttgc tgacgatgag gctgaagctg aaacagaatc aatgaaagca 540
 tgcaagaaaa ggagactaag cagggtttg cactccggtg ctgaa 585

<210> 10
 <211> 195
 <212> PRt
 <213> Zea mays subsp. mays

<220>
 <221> peptide
 <222> (1)..(195)
 <223> ceres Seq. ID no. 12410517

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 10
 Met Gly Asp Val Ser Leu Asn Arg Pro Val Lys Ala Glu Pro Thr Ala
 1 5 10 15
 Gly Gly Ile Ala Lys Gly Asn Arg Val Leu Asp Thr Met Ser Ala Gly
 20 25 30

2003-08-18 2750-1573P.ST25.txt

Trp Thr Asp Glu Arg His Met Leu Tyr Ile Ser Ser Met Glu Ala Ser
 35 40 45
 Phe Val Asp Gln Leu Tyr Asn His Gly Asn His Pro His Asp Ala Asn
 50 55 60
 Gly Ala Gly Phe Lys Val Leu Arg Arg Gly Val Trp Glu Tyr Ile Glu
 65 70 75 80
 Tyr Glu Lys Thr Ser Ala Pro Val Arg Ser Gly Ala Lys Cys Cys Val
 85 90 95
 Pro Ala Asn Pro Trp Ile Arg His Phe Arg Pro Arg Asp Cys Gly Ser
 100 105 110
 Asn Ala Gln Ser Asp Ala Val Glu Ala Ser Val Gly Asp His Glu Ser
 115 120 125
 Gly Thr Gln Ala Ser Arg Lys Ser Pro Ser Val Ser His Gly Arg Glu
 130 135 140
 Arg Gly Ala Cys Lys Gly Glu Pro Gln Ile Leu His Glu Ser Thr Glu
 145 150 155 160
 Val Ser Asp Gln Asn Phe Ala Asp Asp Glu Ala Glu Ala Glu Thr Glu
 165 170 175
 Ser Met Lys Ala Cys Lys Lys Arg Arg Leu Ser Arg Ala Leu His Ser
 180 185 190
 Gly Ala Glu
 195

<210> 11
 <211> 501
 <212> DNA
 <213> Zea mays subsp. mays

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 aaggttctcc gcaggggggt gtgggagtag atcgagtatg agaagaccag tgcccctgtg 180
 cgaagtgggg ctaaattgctg cgtccctgca aatccttgga tccggcattt caggccacgt 240
 gactgcggta gtaacgcaca gactgacgcg gtcgaggcct cagtgggcca ccatgagtcg 300
 ggtactcagg caagccgcaa gagcccttca gtgtctcatg gaaggggaac gggagcttgt 360
 aagggagaac cccagattct acatgaaagt acagaggtct ctgatcaaaa ttttgctgac 420
 gatgaggctg aagctgaaac agaatcaatg aaagcatgca agaaaaggag actaagcagg 480
 gctttgcact ccggtgctga a 501

<210> 12
 <211> 167

2003-08-18 2750-1573P.ST25.txt

<212> PRt

<213> Zea mays subsp. mays

<220>

<221> peptide

<222> (1)..(167)

<223> ceres Seq. ID no. 12410518

<220>

<221> misc_feature

<222> ()..()

<223> xaa is any aa, unknown or other

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20 25 30His Asp Ala Asn Gly Ala Gly Phe Lys Val Leu Arg Arg Gly Val Trp
35 40 45Glu Tyr Ile Glu Tyr Glu Lys Thr Ser Ala Pro Val Arg Ser Gly Ala
50 55 60Lys Cys Cys Val Pro Ala Asn Pro Trp Ile Arg His Phe Arg Pro Arg
65 70 75 80Asp Cys Gly Ser Asn Ala Gln Ser Asp Ala Val Glu Ala Ser Val Gly
85 90 95Asp His Glu Ser Gly Thr Gln Ala Ser Arg Lys Ser Pro Ser Val Ser
100 105 110His Gly Arg Glu Arg Gly Ala Cys Lys Gly Glu Pro Gln Ile Leu His
115 120 125Glu Ser Thr Glu Val Ser Asp Gln Asn Phe Ala Asp Asp Glu Ala Glu
130 135 140Ala Glu Thr Glu Ser Met Lys Ala Cys Lys Lys Arg Arg Leu Ser Arg
145 150 155 160Ala Leu His Ser Gly Ala Glu
165

<210> 13

<211> 471

<212> DNA

<213> Zea mays subsp. mays

<400> 13

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catccgcacg acgcaaattg cgctggcttc aagggttctcc gcaggggggt gtgggagtag 120

atcgagtatg agaagaccag tgcccctgtg cgaagtgggg cttaatgctg cgccctgca 180

aatccttgga tccggcattt caggccacgt gactgcggtg gtaacgcaca gactgacgcg 240

gtcgaggcct cagtgggcga ccatgagtcg ggtactcagg caagccgcaa gagcccttca 300
9

2003-08-18 2750-1573P.ST25.txt

gtgtctcatg gaaggggaacg gggagcttgt aagggaagaac cccagattct acatgaaagt 360
 acagagggtct ctgatcaaaa ttttgctgac gatgaggctg aagctgaaac agaatcaatg 420
 aaagcatgca agaaaaggag actaagcagg gctttgcact ccggtgctga a 471

<210> 14
 <211> 157
 <212> PRt
 <213> Zea mays subsp. mays

<220>
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 <223> ceres Seq. ID no. 12410519

<220>
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 20 25 30
 Leu Arg Arg Gly Val Trp Glu Tyr Ile Glu Tyr Glu Lys Thr Ser Ala
 35 40 45
 Pro Val Arg Ser Gly Ala Lys Cys Cys Val Pro Ala Asn Pro Trp Ile
 50 55 60
 Arg His Phe Arg Pro Arg Asp Cys Gly Ser Asn Ala Gln Ser Asp Ala
 65 70 75 80
 Val Glu Ala Ser Val Gly Asp His Glu Ser Gly Thr Gln Ala Ser Arg
 85 90 95
 Lys Ser Pro Ser Val Ser His Gly Arg Glu Arg Gly Ala Cys Lys Gly
 100 105 110
 Glu Pro Gln Ile Leu His Glu Ser Thr Glu Val Ser Asp Gln Asn Phe
 115 120 125
 Ala Asp Asp Glu Ala Glu Ala Glu Thr Glu Ser Met Lys Ala Cys Lys
 130 135 140
 Lys Arg Arg Leu Ser Arg Ala Leu His Ser Gly Ala Glu
 145 150 155

<210> 15
 <211> 409
 <212> DNA
 <213> Brassica napus

<220>
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 <222> (1)..(409)

2003-08-18 2750-1573P.ST25.txt

<223> ceres Seq. ID no. 4788142

<220>

<221> misc_feature

<222> ()..()

<223> n is a, c, t, g, unknown, or other

<400> 15

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aagctccgac gattcttctt ctgtagggga agagacgact tcttcaatgt attctgagag 180
gaatgaagat acgcctacag aatggaccga tgagaagcat agtttgatc ttaaataaat 240
ggaagcttcc ttcgttgatc agctgtacaa ctccctcggt gcgctcggct ccaaaaacaa 300
caaggatact gtcggaccat cgagaagggt cggtgatggt ggaaaacctt ctgaagaaca 360
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<210> 16

<211> 276

<212> DNA

<213> Brassica napus

<400> 16

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gaagagacga cttcttcaat gtattctgag agaatgaag atacgcctac agaattggacc 120
gatgagaagc atagtttgta tcttaaatca atggaagctt ccttcgttga tcagctgtac 180
aactccctcg gtgcgctcgg ctccaaaaac aacaaggata ctgtcggacc atcgagaagg 240
ttcgggtgatg gtggaaaacc ttctgaagaa caggta 276

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<210> 17

<211> 92

<212> PRt

<213> Brassica napus

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<221> peptide

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<223> ceres Seq. ID no. 4788143

<220>

<221> misc_feature

<222> ()..()

<223> xaa is any aa, unknown or other

<400> 17

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20          25          30

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2003-08-18 2750-1573P.ST25.txt

Glu Asp Thr Pro Thr Glu Trp Thr Asp Glu Lys His Ser Leu Tyr Leu
 35 40 45

Lys Ser Met Glu Ala Ser Phe Val Asp Gln Leu Tyr Asn Ser Leu Gly
 50 55 60

Ala Leu Gly Ser Lys Asn Asn Lys Asp Thr Val Gly Pro Ser Arg Arg
 65 70 75 80

Phe Gly Asp Gly Gly Lys Pro Ser Glu Glu Gln Val
 85 90

<210> 18
 <211> 198
 <212> DNA
 <213> Brassica napus

<400> 18
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 tatcttaaat caatggaagc ttccttcgtt gatcagctgt acaactccct cgggtgcgtc 120
 ggctccaaaa acaacaagga tactgtcggg ccatcgagaa gggttcggtga tgggtggaaaa 180
 ccttctgaag aacaggtg 198

<210> 19
 <211> 66
 <212> PRt
 <213> Brassica napus

<220>
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 <222> (1)..(66)
 <223> ceres Seq. ID no. 4788144

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 19
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 1 5 10 15

Lys His Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe Val Asp Gln
 20 25 30

Leu Tyr Asn Ser Leu Gly Ala Leu Gly Ser Lys Asn Asn Lys Asp Thr
 35 40 45

Val Gly Pro Ser Arg Arg Phe Gly Asp Gly Gly Lys Pro Ser Glu Glu
 50 55 60

Gln Val
 65

<210> 20

2003-08-18 2750-1573P.ST25.txt

<211> 186
 <212> DNA
 <213> Brassica napus

<400> 20
 atgaagatac gcctacagaa tggaccgatg agaagcatag tttgtatctt aaatcaatgg 60
 aagcttcctt cggtgatcag ctgtacaact ccctcgggtgc gctcggctcc aaaaacaaca 120
 aggatactgt cggaccatcg agaaggttcg gtgatggtgg aaaaccttct gaagaacagg 180
 tatgaa 186

<210> 21
 <211> 62
 <212> PRt
 <213> Brassica napus

<220>
 <221> peptide
 <222> (1)..(62)
 <223> ceres Seq. ID no. 4788145

<220>
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 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 21
 Met Lys Ile Arg Leu Gln Asn Gly Pro Met Arg Ser Ile Val Cys Ile
 1 5 10 15
 Leu Asn Gln Trp Lys Leu Pro Ser Leu Ile Ser Cys Thr Thr Pro Ser
 20 25 30
 Val Arg Ser Ala Pro Lys Thr Thr Arg Ile Leu Ser Asp His Arg Glu
 35 40 45
 Gly Ser Val Met Val Glu Asn Leu Leu Lys Asn Arg Tyr Glu
 50 55 60

<210> 22
 <211> 486
 <212> DNA
 <213> Brassica napus

<220>
 <221> misc_feature
 <222> (1)..(486)
 <223> ceres Seq. ID no. 4796909

<220>
 <221> misc_feature
 <222> ()..()
 <223> n is a, c, t, g, unknown, or other

<400> 22
 tttccgtctt tctttttcac cttctcctcc tccttctctc ctttcttctg atattttcct 60
 ctctctagtc ttaacaagat agataggtag caaatgggtg gtgactacag agagaactat 120
 13

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```

agcccaagct cgcacgattc ttcttctgta ggggaagaga cgacttcttc aatgtattct 180
gcgaggaatg aagatacgcc tacagaatgg accgatgaga agcatagttt gtatcttaaa 240
tcaatggaag cttccttcgt tgatcagctg tacaactccc tcggtgcgct cggctccaaa 300
aacaacaagg atactgtcgg accatcgaga aggttcggtg atggtggaaa accttctgaa 360
gaacagaaga tgaatgtgag gcagcctgag tatcgtctca atggaagaca cggtcgtcgc 420
tctcacgagt ttcttaggag tccatggatc aagcactata agccttcacc aaagtcacct 480
acagat 486

```

<210> 23
 <211> 393
 <212> DNA
 <213> Brassica napus

```

<400> 23
atggttggtg actacagaga gaactatagc ccaagctccg acgattcttc ttctgtaggg 60
gaagagacga cttcttcaat gtattctgcg aggaatgaag atacgcctac agaatggacc 120
gatgagaagc atagtttgta tcttaaatca atggaagctt ccttcggtga tcagctgtac 180
aactccctcg gtgcgctcgg ctccaaaaac aacaaggata ctgtcggacc atcgagaagg 240
ttcggtgatg gtggaaaacc ttctgaagaa cagaagatga atgtgaggca gcctgagtat 300
cgtctcaatg gaagacacgg tcgtcgtctt cagcagtttc ttaggagtcc atggatcaag 360
cactataagc cttcaccaaa gtccctaaca gat 393

```

<210> 24
 <211> 131
 <212> PRt
 <213> Brassica napus

<220>
 <221> peptide
 <222> (1)..(131)
 <223> ceres Seq. ID no. 4796910

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

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<400> 24
Met Val Gly Asp Tyr Arg Glu Asn Tyr Ser Pro Ser Ser Asp Asp Ser
1          5          10
Ser Ser Val Gly Glu Glu Thr Thr Ser Ser Met Tyr Ser Ala Arg Asn
20        25        30
Glu Asp Thr Pro Thr Glu Trp Thr Asp Glu Lys His Ser Leu Tyr Leu
35        40        45

```

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Lys Ser Met Glu Ala Ser Phe Val Asp Gln Leu Tyr Asn Ser Leu Gly
 50 55 60
 Ala Leu Gly Ser Lys Asn Asn Lys Asp Thr Val Gly Pro Ser Arg Arg
 65 70 75 80
 Phe Gly Asp Gly Gly Lys Pro Ser Glu Glu Gln Lys Met Asn Val Arg
 85 90 95
 Gln Pro Glu Tyr Arg Leu Asn Gly Arg His Gly Arg Arg Ser His Glu
 100 105 110
 Phe Leu Arg Ser Pro Trp Ile Lys His Tyr Lys Pro Ser Pro Lys Ser
 115 120 125
 Leu Thr Asp
 130

<210> 25
 <211> 315
 <212> DNA
 <213> Brassica napus

<400> 25
 atgtattctg cgaggaatga agatacgctt acagaatgga ccgatgagaa gcatagtttg 60
 tatcttaaat caatggaagc ttccttcgtt gatcagctgt acaactccct cgggtgcgctc 120
 ggctccaaaa acaacaagga tactgtcggg ccatacgagaa ggttcggtga tgggtggaaaa 180
 ctttctgaag aacagaagat gaatgtgagg cagcctgagt atcgtctcaa tggaagacac 240
 ggtcgtcgct ctacagagtt tcttaggagt ccatggatca agcactataa gccttcacca 300
 aagtccttaa cagat 315

<210> 26
 <211> 105
 <212> PRT
 <213> Brassica napus

<220>
 <221> peptide
 <222> (1)..(105)
 <223> ceres Seq. ID no. 4796911

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 26
 Met Tyr Ser Ala Arg Asn Glu Asp Thr Pro Thr Glu Trp Thr Asp Glu
 1 5 10 15
 Lys His Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe Val Asp Gln
 20 25 30
 Leu Tyr Asn Ser Leu Gly Ala Leu Gly Ser Lys Asn Asn Lys Asp Thr
 35 40 45

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Val Gly Pro Ser Arg Arg Phe Gly Asp Gly Gly Lys Pro Ser Glu Glu
 50 55 60

Gln Lys Met Asn Val Arg Gln Pro Glu Tyr Arg Leu Asn Gly Arg His
 65 70 75 80

Gly Arg Arg Ser His Glu Phe Leu Arg Ser Pro Trp Ile Lys His Tyr
 85 90 95

Lys Pro Ser Pro Lys Ser Leu Thr Asp
 100 105

<210> 27
 <211> 243
 <212> DNA
 <213> Brassica napus

<400> 27
 atggaagctt ccttcgttga tcagctgtac aactccctcg gtgcgctcgg ctccaaaaac 60
 aacaaggata ctgtcggacc atcgagaagg ttcggtgatg gtggaaaacc ttctgaagaa 120
 cagaagatga atgtgaggca gcctgagtat cgtctcaatg gaagacacgg tcgtcgctct 180
 cacgagtttc ttaggagtcc atggatcaag cactataagc cttcaccaaa gtccctaaca 240
 gat 243

<210> 28
 <211> 81
 <212> PRt
 <213> Brassica napus

<220>
 <221> peptide
 <222> (1)..(81)
 <223> ceres Seq. ID no. 4796912

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 28
 Met Glu Ala Ser Phe Val Asp Gln Leu Tyr Asn Ser Leu Gly Ala Leu
 1 5 10 15

Gly Ser Lys Asn Asn Lys Asp Thr Val Gly Pro Ser Arg Arg Phe Gly
 20 25 30

Asp Gly Gly Lys Pro Ser Glu Glu Gln Lys Met Asn Val Arg Gln Pro
 35 40 45

Glu Tyr Arg Leu Asn Gly Arg His Gly Arg Arg Ser His Glu Phe Leu
 50 55 60

Arg Ser Pro Trp Ile Lys His Tyr Lys Pro Ser Pro Lys Ser Leu Thr
 65 70 75 80

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Asp

<210> 29
 <211> 1014
 <212> DNA
 <213> Arabidopsis thaliana.

<220>
 <221> misc_feature
 <222> (1)..(1014)
 <223> ceres Seq. ID no. 12321174

<220>
 <221> misc_feature
 <222> ()..()
 <223> n is a, c, t, g, unknown, or other

<400> 29
 ctctctctct taaagctctc ttctttggct ctttcgaaga agaaccattt ttatttccta 60
 agagagacga cggagttctt ttctaaagca ccggagagga ggagaagcaa cgatggagaa 120
 tgattgcacg gtgaatattg tctctctgga gaaggatcgc gatgtttcgg aggcgtcggc 180
 tgaatctcag agcgagtcga ctctttcgaa ctgcctcgat tccggtgtta cggctgagac 240
 ctctcgttct gatgctgatt ccaaaactgga tgaatgtact gcttggacga atgagaaaca 300
 caactcatat cttgattatt tagagagctc gtttgtagg caattatact cttgcttgg 360
 aggtgggact cagagacttt ctagaactcg tgatgtgcag tctaactctc ataaatcagc 420
 tgatcagttt accgtcctac aaaatgggtg ctggcagaag gttaactttg gaaagaaaca 480
 atcttgtttg gagacttcat ctgagtttcg ttttcacaga aattcattga gaaataagcc 540
 tgaaaattcc aacggaaatt acaccatggg aactactgtc caaggagatg tgttatgtca 600
 tgacgaaacc aaacactcag aggcgtcagg gcagaatttc agagaagaag aagaagaaga 660
 agagaagga gaggtgagca aaaaacgaga aagagaagca aataacgatg atagttcatt 720
 gaaggaggat caggttggtc cggtaggat ggtgaagccc agaacgtgaa agcattagga 780
 agtgtagatg aaatactatg aatagagata aagaaataga agaaggtgtg gttacgaatg 840
 tggagagggg tttgtttgtt gtatagcgtg aggctaaaga gagccttcct tataaaggga 900
 tccaatggga tatggaaata ggattgggtg ttgttttcgt taaattttgt ctaatgttaa 960
 ctaggggaaa agttatctga tagtattagc atcttatggc aattttattc tttt 1014

<210> 30
 <211> 654
 <212> DNA
 <213> Arabidopsis thaliana

<400> 30
 atggagaatg attgcacggt gaatattgtc tctctggaga aggatcgcga tgtttcggag 60

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gcgtcggctg aatctcagag cgagtcgact ctttcgaact cgctcgattc cgggtgttacg 120
gctgagacct ctctgttctga tgctgattcc aaactggatg aatgtactgc ttggacgaat 180
gagaaacaca actcatatct tgattattta gagagctcgt ttgttaggca attatactcc 240
ttgcttggag gtgggactca gagactttct agaactcgtg atgtgcagtc taactctcat 300
aaatcagctg atcagttttac cgtcctacaa aatggttgct ggcagaaggt taactttgga 360
aagaaacaat cttgttttga gacttcatct gagtttcgtt ttcacagaaa ttcattgaga 420
aataagcctg aaaattccaa cggaaattac accatgggaa ctactgtcca aggagatgtg 480
ttatgtcatg acgaaaccaa aactcagag gcgtcagggc agaatttcag agaagaagaa 540
gaagaagaag agaagggaga ggtgagcaaa aaacgagaaa gagaagcaaa taacgatgat 600
agttcattga aggaggatca ggttgtgccg gtaaggatgg tgaagcccag aacg 654

```

```

<210> 31
<211> 218
<212> PRt
<213> Arabidopsis thaliana

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<220>
<221> peptide
<222> (1)..(218)
<223> ceres Seq. ID no. 12321175

```

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<220>
<221> misc_feature
<222> ()..()
<223> xaa is any aa, unknown or other

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<400> 31
Met Glu Asn Asp Cys Thr Val Asn Ile Val Ser Leu Glu Lys Asp Arg
1          5          10
Asp Val Ser Glu Ala Ser Ala Glu Ser Gln Ser Glu Ser Thr Leu Ser
20        25        30
Asn Ser Leu Asp Ser Gly Val Thr Ala Glu Thr Ser Arg Ser Asp Ala
35        40        45
Asp Ser Lys Leu Asp Glu Cys Thr Ala Trp Thr Asn Glu Lys His Asn
50        55        60
Ser Tyr Leu Asp Tyr Leu Glu Ser Ser Phe Val Arg Gln Leu Tyr Ser
65        70        75        80
Leu Leu Gly Gly Gly Thr Gln Arg Leu Ser Arg Thr Arg Asp Val Gln
85        90        95
Ser Asn Ser His Lys Ser Ala Asp Gln Phe Thr Val Leu Gln Asn Gly
100       105       110
Cys Trp Gln Lys Val Asn Phe Gly Lys Lys Gln Ser Cys Leu Glu Thr
115      120      125

```

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Ser Ser Glu Phe Arg Phe His Arg Asn Ser Leu Arg Asn Lys Pro Glu
 130 135 140
 Asn Ser Asn Gly Asn Tyr Thr Met Gly Thr Thr Val Gln Gly Asp Val
 145 150 155 160
 Leu Cys His Asp Glu Thr Lys His Ser Glu Ala Ser Gly Gln Asn Phe
 165 170 175
 Arg Glu Glu Glu Glu Glu Glu Lys Gly Glu Val Ser Lys Lys Arg
 180 185 190
 Glu Arg Glu Ala Asn Asn Asp Asp Ser Ser Leu Lys Glu Asp Gln Val
 195 200 205
 Val Pro Val Arg Met Val Lys Pro Arg Thr
 210 215

<210> 32
 <211> 1027
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> misc_feature
 <222> (1)..(1027)
 <223> ceres Seq. ID no. 12323601

<220>
 <221> misc_feature
 <222> ()..()
 <223> n is a, c, t, g, unknown, or other

<400> 32
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 tctccacaaa gataagccaa caatggttgg tgattacaga ggacgcttta gtagccgtcg 120
 tttctccgac gactctgacg attcttccga cgatgcttct tccgtggagg gagagaccac 180
 ttctttccatg tactctgcgg ggaaagagta tatggaaaca gaatggacta atgagaagca 240
 tagtttatat cttaaactta tggaagcttc attcgtagat cagttatata actcgctcgg 300
 agctctcggg aagaacgaga atgtatccga atcaacgagg ttcggtagcg gtagaaaacc 360
 gtctcaagaa cagttcaagg ttcttcatga tggtttctgg cagaagatta atgtgaaaca 420
 acctgaacat cggattaacg gaaggcacgg tggttaattct catgagtttc ttaggagtcc 480
 atggattaag cattataaac cttagtaaaa gacacaaatc ccggtaacgg atgagcccga 540
 aaatcaagtt gttagcagct ctaatgggaa gaagggaata tgcagctctg gctcagcctc 600
 tagtctcaag cagctaagct ctcatctcgg tgaccacgac caaatcagcg ttggagaagc 660
 agaggtatcg gatcagaact ttgttaacga aggaataaaa ggcgaaaacg gaagctcgaa 720
 gaagatgaag acggtgatga tgagtgaatc gtcgagtacc gatcaggttg ttccactcaa 780
 taagctcttg caacatgacg taaatttgaa gtctgtttct tgagaggtca gatggtgaag 840

2003-08-18 2750-1573P.ST25.txt

ctttatatga ggagagaatt ttgtaatgta tatatatattg cataacttat aagtcaaatt 900
 tactatcctt agttacaagt ttcttcatca tatatcccta actataaata tatttatatg 960
 ctcatgtgag tggattcatt tgtactgtaa aacccttaga aagacgtcaa attagtattt 1020
 gatggtc 1027

<210> 33
 <211> 819
 <212> DNA
 <213> Arabidopsis thaliana

<400> 33
 gatattttgt ttctctcttt ctctctgata tttttcattt tcttcttctt ctctctctct 60
 ctccacaaag ataagccaac aatggttggg gattacagag gacgcttttag tagccgtcgt 120
 ttctccgacg actctgacga ttcttccgac gatgcttctt ccgtggaggg agagaccact 180
 tcttccatgt actctgcggg gaaagagtat atggaaacag aatggactaa tgagaagcat 240
 agtttatatc ttaaattctat ggaagcttca ttcgtagatc agttatataa ctcgctcgga 300
 gctctcggga agaacgagaa tgtatccgaa tcaacgaggt tcggtagcgg tagaaaaccg 360
 tctcaagaac agttcaaggt tcttcatgat ggtttctggc agaagattaa tgtgaaacaa 420
 cctgaacatc ggattaacgg aaggcacggg ggtaattctc atgagtttct taggagtcca 480
 tggattaagc attataaacc tttagtaaag acacaaatcc cggtaacgga tgagcccga 540
 aatcaagttg ttagcagctc taatgggaag aagggaatat gcagctctgg ctgagcctct 600
 agtctcaagc agctaagctc tcattcgcgt gaccacgacc aaatcagcgt tggagaagca 660
 gaggtatcgg atcagaactt tgtaacgaa ggaataaaag gcgaaaacgg aagctcgaag 720
 aagatgaaga cgggtgatgat gagtgaatcg tcgagtaccg atcaggttgt tccactcaat 780
 aagctcttgc aacatgacgt aaatttgaag tctgtttct 819

<210> 34
 <211> 273
 <212> PRT
 <213> Arabidopsis thaliana

<220>
 <221> peptide
 <222> (1)..(273)
 <223> ceres Seq. ID no. 12323602

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 34
 Asp Ile Leu Phe Leu Ser Phe Ser Leu Ile Phe Phe Ile Phe Phe Phe
 1 5 10 15
 Phe Ser Leu Ser Leu His Lys Asp Lys Pro Thr Met Val Gly Asp Tyr
 20

2003-08-18 2750-1573P.ST25.txt

20

25

30

Arg Gly Arg Phe Ser Ser Arg Arg Phe Ser Asp Asp Ser Asp Asp Ser
 35 40 45
 Ser Asp Asp Ala Ser Ser Val Glu Gly Glu Thr Thr Ser Ser Met Tyr
 50 55 60
 Ser Ala Gly Lys Glu Tyr Met Glu Thr Glu Trp Thr Asn Glu Lys His
 65 70 75 80
 Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe Val Asp Gln Leu Tyr
 85 90 95
 Asn Ser Leu Gly Ala Leu Gly Lys Asn Glu Asn Val Ser Glu Ser Thr
 100 105 110
 Arg Phe Gly Ser Gly Arg Lys Pro Ser Gln Glu Gln Phe Lys Val Leu
 115 120 125
 His Asp Gly Phe Trp Gln Lys Ile Asn Val Lys Gln Pro Glu His Arg
 130 135 140
 Ile Asn Gly Arg His Gly Gly Asn Ser His Glu Phe Leu Arg Ser Pro
 145 150 155 160
 Trp Ile Lys His Tyr Lys Pro Leu Val Lys Thr Gln Ile Pro Val Thr
 165 170 175
 Asp Glu Pro Glu Asn Gln Val Val Ser Ser Ser Asn Gly Lys Lys Gly
 180 185 190
 Ile Cys Ser Ser Gly Ser Ala Ser Ser Leu Lys Gln Leu Ser Ser His
 195 200 205
 Ser Arg Asp His Asp Gln Ile Ser Val Gly Glu Ala Glu Val Ser Asp
 210 215 220
 Gln Asn Phe Val Asn Glu Gly Ile Lys Gly Glu Asn Gly Ser Ser Lys
 225 230 235 240
 Lys Met Lys Thr Val Met Met Ser Glu Ser Ser Ser Thr Asp Gln Val
 245 250 255
 Val Pro Leu Asn Lys Leu Leu Gln His Asp Val Asn Leu Lys Ser Val
 260 265 270

Ser

<210> 35

<211> 738

<212> DNA

<213> Arabidopsis thaliana

<400> 35

atggttggtg attacagagg acgcttttagt agccgtcgtt tctccgacga ctctgacgat 60
 tcttccgacg atgcttcttc cgtggaggga gagaccactt cttccatgta ctctgcgggg 120
 aaagagtata tggaacaga atggactaat gagaagcata gtttatatct taaatctatg 180
 gaagcttcat tcgtagatca gttatataac tcgctcggag ctctcgggaa gaacgagaat 240

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gtatccgaat caacgaggtt cggtagcggg agaaaaccgt ctcaagaaca gttcaaggtt	300
cttcatgatg gtttctggca gaagattaat gtgaaacaac ctgaacatcg gattaacgga	360
aggcacggtg gtaattctca tgagtttctt aggagtccat ggattaagca ttataaacct	420
ttagtaaaaga cacaaatccc ggtaacggat gagcccgaaa atcaagttgt tagcagctct	480
aatgggaaga agggaatatg cagctctggc tcagcctcta gtctcaagca gctaagctct	540
cattcgcgtg accacgacca aatcagcgtt ggagaagcag aggtatcgga tcagaacttt	600
gttaacgaag gaataaaagg cgaaaacgga agctcgaaga agatgaagac ggtgatgatg	660
agtgaatcgt cgagtaaccga tcaggttgtt ccactcaata agctcttgca acatgacgta	720
aatttgaagt ctgtttct	738

<210> 36
 <211> 246
 <212> PRT
 <213> Arabidopsis thaliana

<220>
 <221> peptide
 <222> (1)..(246)
 <223> ceres Seq. ID no. 12323603

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 36
 Met Val Gly Asp Tyr Arg Gly Arg Phe Ser Ser Arg Arg Phe Ser Asp
 1 5 10 15
 Asp Ser Asp Asp Ser Ser Asp Asp Ala Ser Ser Val Glu Gly Glu Thr
 20 25 30
 Thr Ser Ser Met Tyr Ser Ala Gly Lys Glu Tyr Met Glu Thr Glu Trp
 35 40 45
 Thr Asn Glu Lys His Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe
 50 55 60
 Val Asp Gln Leu Tyr Asn Ser Leu Gly Ala Leu Gly Lys Asn Glu Asn
 65 70 75 80
 Val Ser Glu Ser Thr Arg Phe Gly Ser Gly Arg Lys Pro Ser Gln Glu
 85 90 95
 Gln Phe Lys Val Leu His Asp Gly Phe Trp Gln Lys Ile Asn Val Lys
 100 105 110
 Gln Pro Glu His Arg Ile Asn Gly Arg His Gly Gly Asn Ser His Glu
 115 120 125
 Phe Leu Arg Ser Pro Trp Ile Lys His Tyr Lys Pro Leu Val Lys Thr
 130 135 140
 Gln Ile Pro Val Thr Asp Glu Pro Glu Asn Gln Val Val Ser Ser Ser
 145 150 155 160

2003-08-18 2750-1573P.ST25.txt

Asn Gly Lys Lys Gly Ile Cys Ser Ser Gly Ser Ala Ser Ser Leu Lys
 165 170 175
 Gln Leu Ser Ser His Ser Arg Asp His Asp Gln Ile Ser Val Gly Glu
 180 185 190
 Ala Glu Val Ser Asp Gln Asn Phe Val Asn Glu Gly Ile Lys Gly Glu
 195 200 205
 Asn Gly Ser Ser Lys Lys Met Lys Thr Val Met Met Ser Glu Ser Ser
 210 215 220
 Ser Thr Asp Gln Val Val Pro Leu Asn Lys Leu Leu Gln His Asp Val
 225 230 235 240
 Asn Leu Lys Ser Val Ser
 245

<210> 37
 <211> 633
 <212> DNA
 <213> Arabidopsis thaliana

<400> 37
 atgtactctg cggggaaaga gtatatggaa acagaatgga ctaatgagaa gcatagttta 60
 tatcttaaat ctatggaagc ttcattcgta gatcagttat ataactcgct cggagctctc 120
 gggaagaacg agaatgtatc cgaatcaacg aggttcggta gcggtagaaa accgtctcaa 180
 gaacagttca aggttcttca tgatggtttc tggcagaaga ttaatgtgaa acaacctgaa 240
 catcggatta acggaaggca cggtggtaat tctcatgagt ttcttaggag tccatggatt 300
 aagcattata aacctttagt aaagacacaa atcccggtaa cggatgagcc cgaaaatcaa 360
 gttgttagca gctctaattg gaagaaggga atatgcagct ctggctcagc ctctagtctc 420
 aagcagctaa gctctcattc gcgtgaccac gaccaaata gcgttgaga agcagaggta 480
 tcggatcaga actttgttaa cgaaggaata aaaggcgaaa acggaagctc gaagaagatg 540
 aagacggtga tgatgagtga atcgtcgagt accgatcagg ttgttccact caataagctc 600
 ttgcaacatg acgtaaattt gaagtctggt tct 633

<210> 38
 <211> 211
 <212> PRT
 <213> Arabidopsis thaliana

<220>
 <221> peptide
 <222> (1)..(211)
 <223> ceres Seq. ID no. 12323604
 <220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

2003-08-18 2750-1573P.ST25.txt

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<400> 38
Met Tyr Ser Ala Gly Lys Glu Tyr Met Glu Thr Glu Trp Thr Asn Glu
1      5      10      15
Lys His Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe Val Asp Gln
20      25      30
Leu Tyr Asn Ser Leu Gly Ala Leu Gly Lys Asn Glu Asn Val Ser Glu
35      40      45
Ser Thr Arg Phe Gly Ser Gly Arg Lys Pro Ser Gln Glu Gln Phe Lys
50      55      60
Val Leu His Asp Gly Phe Trp Gln Lys Ile Asn Val Lys Gln Pro Glu
65      70      75      80
His Arg Ile Asn Gly Arg His Gly Gly Asn Ser His Glu Phe Leu Arg
85      90      95
Ser Pro Trp Ile Lys His Tyr Lys Pro Leu Val Lys Thr Gln Ile Pro
100     105     110
Val Thr Asp Glu Pro Glu Asn Gln Val Val Ser Ser Ser Asn Gly Lys
115     120     125
Lys Gly Ile Cys Ser Ser Gly Ser Ala Ser Ser Leu Lys Gln Leu Ser
130     135     140
Ser His Ser Arg Asp His Asp Gln Ile Ser Val Gly Glu Ala Glu Val
145     150     155     160
Ser Asp Gln Asn Phe Val Asn Glu Gly Ile Lys Gly Glu Asn Gly Ser
165     170     175
Ser Lys Lys Met Lys Thr Val Met Met Ser Glu Ser Ser Ser Thr Asp
180     185     190
Gln Val Val Pro Leu Asn Lys Leu Leu Gln His Asp Val Asn Leu Lys
195     200     205
Ser Val Ser
210

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```

<210> 39
<211> 960
<212> DNA
<213> Arabidopsis thaliana

```

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<220>
<221> misc_feature
<222> (1)..(960)
<223> ceres Seq. ID no. 13491409

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<220>
<221> misc_feature
<222> ()..()
<223> n is a, c, t, g, unknown, or other

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<400> 39
atctttgttt ctctctttct ctctgatatt ttctattttc ttcttcttct ctctctctct 60

```


2003-08-18 2750-1573P.ST25.txt

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ccacaaagat aagccaacaa tggttggtga ttacagagga cgcttttagta gccgtcgttt 120
ctccgatgac tctgacgatt cttccgacga tgcttcttcc gtggagggag agaccacttc 180
ttccatgtac tctgcgggga aagagtatat ggaaacagaa tggactaatg agaagcatag 240
tttatacttt aaatctatgg aagcttcatt cgtagatcag ttatataact cgctcggagc 300
tctcgggaag aacgagaatg tatccgaatc aacgaggttc ggtagcggta gaaaaccgtc 360
tcaagaacag ttcaaggttc ttcgatgatg tttctggcag aagattaatg tgaaacaacc 420
tgaacatcgg attaacggaa ggcacggtgg taattctcat gagtttctta ggagtccatg 480
gattaagcat tataaacctt tagtaaagac acaaatcccg gtaacggatg agcccgaaaa 540
tcaagttggt agcagctcta atgggaagaa gggaatatgc agctctggct cagcctctag 600
tctcaagcag ctaagctctc attcgcgtga ccacgaccaa atcagcgttg gagaagcaga 660
ggtatcggat cagaactttg ttaacgaagg aataaaaggc gaaaacggaa gctcgaagaa 720
gatgaagacg gtgatgatga gtgaatcgtc gagtaccgat caggttgttc cactcaataa 780
actcttgcaa catgacgtaa atttgaagtc tgtttcttga gaggtcagat ggtgaagctt 840
tatatgagga gagaattttg taatgtatat atatttgcac aacttataag tcaaatttac 900
tatccttagt tacaagtttc ttcacatata atccctaact ataaatatat ttatatgcc 960

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<210> 40
 <211> 816
 <212> DNA
 <213> Arabidopsis thaliana

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<400> 40
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cacaaagata agccaacaat ggttggtgat tacagaggac gcttttagtag ccgtcgtttc 120
tccgatgact ctgacgattc ttccgacgat gcttcttccg tggagggaga gaccacttct 180
tccatgtact ctgcggggaa agagtatatg gaaacagaat ggactaatga gaagcatagt 240
ttatatctta aatctatgga agcttcattc gtagatcagt tatataactc gctcggagct 300
ctcgggaaga acgagaatgt atccgaatca acgaggttcg gtagcggtag aaaaccgtct 360
caagaacagt tcaaggttct tcatgatggt ttctggcaga agattaatgt gaaacaacct 420
gaacatcggg ttaacggaag gcacggtggt aattctcatg agtttcttag gagtccatgg 480
attaagcatt ataaaccttt agtaaagaca caaatcccgg taacggatga gcccgaaaat 540
caagttgtta gcagctctaa tgggaagaag ggaatatgca gctctggctc agcctctagt 600
ctcaagcagc taagctctca ttcgcgtgac cacgaccaa tcagcgttgg agaagcagag 660
gtatcggatc agaactttgt taacgaagga ataaaaggcg aaaacggaag ctcgaagaag 720
atgaagacgg tgatgatgag tgaatcgtcg agtaccgatc aggttggtcc actcaataaa 780

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ctcttgcaac atgacgtaaa tttgaagtct gtttct

816

<210> 41
 <211> 272
 <212> PRT
 <213> Arabidopsis thaliana

<220>
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 <222> (1)..(272)
 <223> ceres Seq. ID no. 13491410

<220>
 <221> misc_feature
 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 41
 Phe Leu Phe Leu Ser Phe Ser Leu Ile Phe Phe Ile Phe Phe Phe Phe
 1 5 10 15
 Ser Leu Ser Leu His Lys Asp Lys Pro Thr Met Val Gly Asp Tyr Arg
 20 25 30
 Gly Arg Phe Ser Ser Arg Arg Phe Ser Asp Asp Ser Asp Asp Ser Ser
 35 40 45
 Asp Asp Ala Ser Ser Val Glu Gly Glu Thr Thr Ser Ser Met Tyr Ser
 50 55 60
 Ala Gly Lys Glu Tyr Met Glu Thr Glu Trp Thr Asn Glu Lys His Ser
 65 70 75 80
 Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe Val Asp Gln Leu Tyr Asn
 85 90 95
 Ser Leu Gly Ala Leu Gly Lys Asn Glu Asn Val Ser Glu Ser Thr Arg
 100 105 110
 Phe Gly Ser Gly Arg Lys Pro Ser Gln Glu Gln Phe Lys Val Leu His
 115 120 125
 Asp Gly Phe Trp Gln Lys Ile Asn Val Lys Gln Pro Glu His Arg Ile
 130 135 140
 Asn Gly Arg His Gly Gly Asn Ser His Glu Phe Leu Arg Ser Pro Trp
 145 150 155 160
 Ile Lys His Tyr Lys Pro Leu Val Lys Thr Gln Ile Pro Val Thr Asp
 165 170 175
 Glu Pro Glu Asn Gln Val Val Ser Ser Ser Asn Gly Lys Lys Gly Ile
 180 185 190
 Cys Ser Ser Gly Ser Ala Ser Ser Leu Lys Gln Leu Ser Ser His Ser
 195 200 205
 Arg Asp His Asp Gln Ile Ser Val Gly Glu Ala Glu Val Ser Asp Gln
 210 215 220

2003-08-18 2750-1573P.ST25.txt

Asn Phe Val Asn Glu Gly Ile Lys Gly Glu Asn Gly Ser Ser Lys Lys
 225 230 235 240

Met Lys Thr Val Met Met Ser Glu Ser Ser Ser Thr Asp Gln Val Val
 245 250 255

Pro Leu Asn Lys Leu Leu Gln His Asp Val Asn Leu Lys Ser Val Ser
 260 265 270

<210> 42
 <211> 738
 <212> DNA
 <213> Arabidopsis thaliana

<400> 42
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 aaagagtata tggaaacaga atggactaat gagaagcata gtttatatct taaatctatg 180
 gaagcttcat tcgtagatca gttatataac tcgctcggag ctctcgggaa gaacgagaat 240
 gtatccgaat caacgagggt cggtagcggg agaaaaccgt ctcaagaaca gttcaagggt 300
 cttcatgatg gtttctggca gaagattaat gtgaaacaac ctgaacatcg gattaacgga 360
 aggcacgggt gtaatttctca tgagtttctt aggagtccat ggattaagca ttataaacct 420
 ttagtaaaga cacaaatccc ggtaacggat gagcccgaaa atcaagttgt tagcagctct 480
 aatgggaaga agggaatatg cagctctggc tcagcctcta gtctcaagca gctaagctct 540
 cattcgcgtg accacgacca aatcagcgtt ggagaagcag aggtatcggg tcagaacttt 600
 gttaacgaag gaataaaagg cgaaaacgga agctcgaaga agatgaagac ggtgatgatg 660
 agtgaatcgt cgagtaccga tcagggttgt ccactcaata aactcttgca acatgacgta 720
 aatttgaagt ctgtttct 738

<210> 43
 <211> 246
 <212> PRT
 <213> Arabidopsis thaliana

<220>
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 <222> (1)..(246)
 <223> ceres Seq. ID no. 13491411

<220>
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 <222> ()..()
 <223> xaa is any aa, unknown or other

<400> 43
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 1 5 10 15

Asp Ser Asp Asp Ser Ser Asp Asp Ala Ser Ser Val Glu Gly Glu Thr
 27

2003-08-18 2750-1573P.ST25.txt

20 25 30

Thr Ser Ser Met Tyr Ser Ala Gly Lys Glu Tyr Met Glu Thr Glu Trp
 35 40 45

Thr Asn Glu Lys His Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe
 50 55 60

Val Asp Gln Leu Tyr Asn Ser Leu Gly Ala Leu Gly Lys Asn Glu Asn
 65 70 75 80

Val Ser Glu Ser Thr Arg Phe Gly Ser Gly Arg Lys Pro Ser Gln Glu
 85 90 95

Gln Phe Lys Val Leu His Asp Gly Phe Trp Gln Lys Ile Asn Val Lys
 100 105 110

Gln Pro Glu His Arg Ile Asn Gly Arg His Gly Gly Asn Ser His Glu
 115 120 125

Phe Leu Arg Ser Pro Trp Ile Lys His Tyr Lys Pro Leu Val Lys Thr
 130 135 140

Gln Ile Pro Val Thr Asp Glu Pro Glu Asn Gln Val Val Ser Ser Ser
 145 150 155 160

Asn Gly Lys Lys Gly Ile Cys Ser Ser Gly Ser Ala Ser Ser Leu Lys
 165 170 175

Gln Leu Ser Ser His Ser Arg Asp His Asp Gln Ile Ser Val Gly Glu
 180 185 190

Ala Glu Val Ser Asp Gln Asn Phe Val Asn Glu Gly Ile Lys Gly Glu
 195 200 205

Asn Gly Ser Ser Lys Lys Met Lys Thr Val Met Met Ser Glu Ser Ser
 210 215 220

Ser Thr Asp Gln Val Val Pro Leu Asn Lys Leu Leu Gln His Asp Val
 225 230 235 240

Asn Leu Lys Ser Val Ser
 245

<210> 44
 <211> 633
 <212> DNA
 <213> Arabidopsis thaliana

<400> 44
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 gggaagaacg agaatgtatc cgaatcaacg aggttcggtg gcggtagaaa accgtctcaa 180
 gaacagttca aggttcttca tgatgggtttc tggcagaaga ttaatgtgaa acaacctgaa 240
 catcggatta acggaaggca cgggtggtaat tctcatgagt ttcttaggag tccatggatt 300
 aagcattata aacctttagt aaagacacaa atcccggtaa cggatgagcc cgaaaatcaa 360
 gttgtagca gctctaattg gaagaaggga atatgcagct ctggctcagc ctctagtctc 420
 28

2003-08-18 2750-1573P.ST25.txt

aagcagctaa gctctcattc gcgtgaccac gaccaaatca gcgttggaga agcagaggta 480
 tcggatcaga actttgttaa cgaaggaata aaaggcgaaa acggaagctc gaagaagatg 540
 aagacgggtga tgatgagtga atcgctgagt accgatcagg ttgttcact caataaactc 600
 ttgcaacatg acgtaaattt gaagtctgtt tct 633

<210> 45

<211> 211

<212> PRT

<213> Arabidopsis thaliana

<220>

<221> peptide

<222> (1)..(211)

<223> ceres Seq. ID no. 13491412

<220>

<221> misc_feature

<222> ()..()

<223> xaa is any aa, unknown or other

<400> 45

Met Tyr Ser Ala Gly Lys Glu Tyr Met Glu Thr Glu Trp Thr Asn Glu
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Lys His Ser Leu Tyr Leu Lys Ser Met Glu Ala Ser Phe Val Asp Gln
 20 25 30

Leu Tyr Asn Ser Leu Gly Ala Leu Gly Lys Asn Glu Asn Val Ser Glu
 35 40 45

Ser Thr Arg Phe Gly Ser Gly Arg Lys Pro Ser Gln Glu Gln Phe Lys
 50 55 60

Val Leu His Asp Gly Phe Trp Gln Lys Ile Asn Val Lys Gln Pro Glu
 65 70 75 80

His Arg Ile Asn Gly Arg His Gly Gly Asn Ser His Glu Phe Leu Arg
 85 90 95

Ser Pro Trp Ile Lys His Tyr Lys Pro Leu Val Lys Thr Gln Ile Pro
 100 105 110

Val Thr Asp Glu Pro Glu Asn Gln Val Val Ser Ser Ser Asn Gly Lys
 115 120 125

Lys Gly Ile Cys Ser Ser Gly Ser Ala Ser Ser Leu Lys Gln Leu Ser
 130 135 140

Ser His Ser Arg Asp His Asp Gln Ile Ser Val Gly Glu Ala Glu Val
 145 150 155 160

Ser Asp Gln Asn Phe Val Asn Glu Gly Ile Lys Gly Glu Asn Gly Ser
 165 170 175

Ser Lys Lys Met Lys Thr Val Met Met Ser Glu Ser Ser Ser Thr Asp
 180 185 190

Gln Val Val Pro Leu Asn Lys Leu Leu Gln His Asp Val Asn Leu Lys
 195 200 205

2003-08-18 2750-1573P.ST25.txt

Ser Val Ser
210

<210> 46
<211> 1031
<212> DNA
<213> Artificial Sequence

<220>
<223> clone nucleotide 486033

<220>
<221> misc_feature
<222> (609)..(609)
<223> n is a, c, g, or t

<400> 46
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tgttgcagtt cagtttgcac cctgagctct ctctggacc agccgagatt tctctctctg 120
cgcatctcta attcatcttc gtcgagagga gctgttcctc ttctttgccg cctcgaatct 180
gggactggtc ggttttctgg atccctgctg cctgtcgggt tctcgagagg tgtaaaatcc 240
aatggagggt gtgtcatcgt tgaaccagcc gttgatcaac gacgaccggc agcccgtgcc 300
cagcagtatc gccaaagggtg atcaaattca aggcctgttg tcgggtgaat ggacaaatga 360
gcggcacagc tcgtacataa gtcctatgga ggcattcttc gtggagcaac tccgtagtgg 420
ttccaaggcc atccaggagg gcttgtgcca gagcatgagg attccgaggg atgatgctcg 480
cagccatgac gtccctgaga gtccgtgggt ggtggtagag cgtttcaggc cacgcggtgt 540
ccaccatggc gatggaatgg aagtgaacc tttggctgat ggttatggat caggtactga 600
cacggcccng agagaagggtc cggaccacg caagatagcg aaggcttctg ctattattga 660
agtcacggac cagaattttc ctgaggaggg gattcaatcc agtaacggtg catgcaagag 720
acagaaatct actcctggca atgcatcaaa tggccagggt acttaacaag atagtggag 780
ccaagccatg ccctctctga agccttcagg aggccatggg ggaaacgaga cttgtctgca 840
gtactacgtg atgacagggt gtgctgcagc tgcaagtagt ttggcttacc aaaatatgat 900
atcgtcgtcc tttctgcggt gtggagagta gaatatgcat atccacatct gcagagagca 960
ccggttctct tcttcttggt gctgttacta ttttgtgcca tggagcaaatt ttatttggt 1020
aatttgagct g 1031

<210> 47
<211> 174
<212> PRT
<213> Artificial Sequence

2003-08-18 2750-1573P.ST25.txt

<220>

<223> clone peptide 486033

<220>

<221> misc_feature

<222> (123)..(123)

<223> Xaa can be any naturally occurring amino acid

<400> 47

Met Glu Gly Val Ser Ser Leu Asn Gln Pro Leu Ile Asn Asp Asp Arg
 1 5 10 15

Gln Pro Val Pro Ser Ser Ile Ala Lys Gly Asp Gln Ile Gln Gly Leu
 20 25 30

Leu Ser Gly Glu Trp Thr Asn Glu Arg His Ser Ser Tyr Ile Ser Ser
 35 40 45

Met Glu Ala Ser Phe Val Glu Gln Leu Arg Ser Gly Ser Lys Ala Ile
 50 55 60

Gln Glu Gly Leu Cys Gln Ser Met Arg Ile Pro Arg Asp Asp Ala Arg
 65 70 75 80

Ser His Asp Val Pro Glu Ser Pro Trp Val Val Val Arg Arg Phe Arg
 85 90 95

Pro Arg Gly Val His His Gly Asp Gly Met Glu Val Glu Pro Leu Val
 100 105 110

Asp Gly Tyr Gly Ser Gly Thr Asp Thr Ala Xaa Arg Glu Gly Pro Asp
 115 120 125

Pro Arg Lys Ile Ala Lys Ala Ser Ala Ile Ile Glu Val Thr Asp Gln
 130 135 140

Asn Phe Pro Glu Glu Gly Ile Gln Ser Ser Asn Gly Ala Cys Lys Arg
 145 150 155 160

Gln Lys Ser Thr Pro Gly Asn Ala Ser Asn Gly Gln Gly Thr
 165 170